Personal Statement -  
MasterCAM has many applications and uses and the level of use can range from education to current CAD/CAM working professionals. My past experiences with MasterCAM (MCAM) were limited to using my personal time at work to attempt to use a CNC Router to create a keychain for myself. From there I had signed up for an introductory course to MCAM during the summer of 2009, this course had touched on the basics of the MCAM interface, drawing/ modify tools, and creating engraving tool paths.

My knowledge of MCAM prior to this course was drawing and engraving a ruler on a piece of Plexiglas using many general parametric drawing techniques (array, trim, lines, and move).

Things I knew…

* General parametric drawing/modify tools, and techniques
* Engraving tool path creation on a piece of finish stock

Some things I did not know…

* How to cut out a shape around an engraving
* How to create multiple depth tool paths
* How to import an external graphic file and apply a tool path

My confidence level of attempting a self-directed learning project is high. I am an avid “do it yourselfer” spending many hours tinkering, researching, reading, creating, modifying, and breaking a multitude of projects. For me failure is a welcomed learning experience, it is part of what keeps me interested in most of my projects. Struggling through failure and succeeding with an undesired or desired outcome. I enjoy asking the question, “Why did that just happen?” learn from a mistake or undesired result and use the experience to move forward.

Goals -

Using MasterCAM I will be able to…

* create a 3D project using multiple depth cuts
* cut out a shape around an engraving
* import an external graphic and apply a tool path
* Create and maintain a website consisting of various online resources

Journal – broken down by week

* Week1
  + Explore MasterCAM and search for crossover projects( bring old school projects into current Tech Ed standards)
  + Search for tutorials online and other resources for MasterCAM
* Week2
  + Create practice keychain 2d cutout of a fish
    - Forgot to have second operation for drilling hole to put keying
    - Acrylic keeps plugging up bit 4flute 1/16” end mill
      * Search for techniques to prevent acrylic melting to tool bit
* Week3
  + Start creating and collecting all research on wikispaces.com page, started with 3 pages ended the week with 9 full pages.
  + Added acrylic page – a collection of acrylic sites, material techniques.
  + Added AutoCAD page
* Week4
  + Try to use AutoCAD in conjunction with MasterCAM .DXF files should work between them, found some glitches and problems with importing dxf files into MasterCAM
  + Explore Cube-in-a-cube project
    - Foresee problems with indexing tool on part
      * Start thinking about custom Jig/ Fixture
* Week5
  + Make more Wikispace pages 5 more added
  + Explore freeware CAD and CNC materials and sites
    - This maybe a great idea to teach CAD and give practical hands on homework, all students can download and run freeware CAD.
* Week6
  + Connect with fellow classmate via wikispace
    - Communication and idea sharing through wikispace
* Week7
  + Week spent playing with CNC router
    - Created 2ply MDF blanks 10”x8”
    - Crashed toolbit and orientated blank incorrectly
    - Created HD sign on back of crashed material
    - Tried experimenting with different tool sizes and tool changes
    - The bigger the sign the bigger and easier tooling will be
* Week8
  + Planning on creating a 2’x4’ HD sign using ¼ “ 2flute straight bit for all operations
* Week9
  + Work on importing Graphic files into MCAM using Chooks rast to vec
  + Found many free rast to vec programs added to wikispace
* Week10
  + Wasted week no work done
* Week11
  + Work on creating tool library in MasterCAM of all available tooling on hand
  + Start using Light Machine Mini CNC mill to create small key chains.
  + Use SpectraCAD to draw and create keychain
  + Find drawing in SpecraCAD to not be the best, draw files in AutoCAD and import them to Spectra.
* Week12
  + Failing importing graphic file into AutoCAD converting to vector then importing it in to SpectraCAD
  + Removed vise for LightMachine and replaced with MDF plate.
* Week13
  + Try to import more graphics from AutoCAD to SpectraCAD pasting as blocks that I cannot get to give lines for tool paths.
* Week14
  + Fixed issues with techno machine and try to run newly written gcode
  + Failure in techno when tool change is reached
  + Try to fix by having no tool change and no success

Self-Assessment -

My total learning for this project was much more than I had anticipated. Instead of concentrating on MasterCAM I found I spent more of my time exploring alternate software and other software to use in conjunction with MCAM. I have come along way with MCAM and have found that it is not the easiest CAM program however it is the most powerful. Other things that I had exploered throughout the learning process were; AutoCAD use with MCAM, AutoCAD use with SpectraCAD, and the most useful Wikispaces. Wikispaces have been my most useful tool in SDL I found that I can use it not only to keep all of my information organized but I can also use it to communicate with other teachers and students. My efforts in the SDL project are evident by my mass collection of information put on my Wikispace, I was updating, organizing and working in some way with my Wikispace on almost daily basis.